Plastics Engineering

Introduction

The Bachelor of Science degree in Plastics Engineering will prepare students to understand the components necessary to bring Wisconsin to the forefront in the design, development, and manufacture of plastics products. For the plastics industry to grow and prosper, it will depend upon competent engineers whose education focuses on this discipline.

The program will be offered on campus to capitalize on UW-Stout's extensive laboratory facilities. The curriculum will strive for ABET-accreditation and will provide an appropriate mixture of theoretical and practical instruction. The program concentrates on the design and development of plastics products, processes, and equipment prevalent in the plastics manufacturing industry. Graduates of this program will be able to apply the principles of mathematics and science to the solution of practical problems, apply concepts of engineering analysis, design plastic products and manufacturing systems using contemporary methods, integrate sound management principles into the engineering process, practice high ethical standards, and implement technology with an awareness of important societal issues.

General Requirements
Bachelor of Science Degree

Total for graduation	132
General Education	43
Major Studies	89

Program Requirements

General Education

43 credits required

A. Communication Skills — 8 credits

ENGL-101	Freshman English – Composition *or*	
ENGL-111	Freshman English – Honors I	3
ENGL-102	Freshman English – Reading and Related Writing *or*	
ENGL-112	Freshman English – Honors II	3
SPCOM-100	Fundamentals of Speech	2

B. Analytic Reasoning — 8 credits

MATH-153	Calculus I	4
MATH-154	Calculus II	4

C. Health and Physical Education — 2 credits

Courses must be from areas of health, physical education or nutrition.

D. Humanities and the Arts — 9 credits

Courses must be from three or more areas including art history, creative arts, foreign language and culture, history, literature, music appreciation, per forming arts and philosophy.

E. Social and Behavioral Sciences — 9 credits

Courses must be from three or more areas including anthropology, economics, geography, political science, psychology and sociology.

F. Natural Sciences *(with Lab)* — **5 credits**

CHEM-135	College Chemistry I	5

G. Technology — 2 credits

Major Studies

89 credits required

Mathematics and Basic Sciences — 20 credits

CHEM-325	Chemistry of Polymers	4
MATH-250	Differential Equations With Linear Algebra	3
PHYS-281	University Physics I	5
PHYS-282	University Physics II	5
STAT-330	Probability and Statistics for Engineering and the Sciences	3

Engineering Core — 17 credits

ELEC-290	Circuits and Devices	4
MECH-293	Engineering Mechanics	3
MECH-294	Mechanics of Materials	3
MFGT-150	Introduction to Engineering Materials	3
MFGE-275	Thermodynamics and Heat Transfer	2
MFGE-391	Fluid Mechanics	2

Polymer/Plastic Materials, Processes, Analysis and Testing — 21 credits

MFGT-341	Injection Molding Technology	3
PLE-180	Introduction to Plastics	3
PLE-XXX	Material Testing and Analysis	3
PLE-305	Extrusion Theory and Application	3
PLE-310	Injection Molding Theory, Design and Application	3
PLE-XXX	Transport Phenomena	3
PLE-XXX	Process Simulation and Analysis	3

Product and Production System Design — 21 credits

ENGGR-112	Engineering Graphics Fundamentals	3
ENGGR-210	Engineering Graphics Using Solid Modeling	3
MFGE-325	Computer Aided Manufacturing	3
MFGE-363	Controls and Instrumentation	4
MFGE-415	Machine Vision and Robotics	2
PLE-XXX	Capstone I: Plastics Engineering and Experimental Design	3
PLE-XXX	Capstone II: Design Development/Execution	3

Engineering and Professional Competitiveness — 9 credits

Choose 9 credits from the following selectives:

INMGT-300	Engineering Economy	2-3
INMGT-335	Lean Manufacturing Systems	4
INMGT-422	Quality Engineering	3

Professional Selective — 1 credit

PLE-3XX	Intern Experience	1-3
PLE-4XX	Cooperative Experience	1-3